

# B.S. IN CHEMISTRY/ BIOCHEMISTRY (6-12 PHYSICAL SCIENCE TEACHER CERTIFICATION)

**Web Site:** <https://twu.edu/chemistry-biochemistry/undergraduate-programs/bs-in-chemistrybiochemistry-with-teacher-certification/>

## Degree Requirements

**Total Semester Credit Hours (SCH):** 121

**Major:** 33 SCH; **Required Minor:** 26 SCH

**Program Code:** CHEMISTRY.BS.PHYSED; **CIP Code:** 40.0501.00

## Texas Core Curriculum

Code	Title	SCHs
ENG 1013	Composition I	3
ENG 1023	Composition II	3
Mathematics		3
Life & Physical Sciences		6
Language, Philosophy, & Culture		3
Creative Arts		3
HIST 1013	History of the United States, 1492-1865	3
HIST 1023	History of the United States, 1865 to the Present	3
POLS 2013	U.S. National Government	3
POLS 2023	Texas Government	3
Social & Behavioral Sciences		3
CAO: Women's Studies		3
CAO: First Year Seminar, Wellness or Mathematics		3
<b>Total SCHs</b>		<b>42</b>

## Courses Required for Major

Code	Title	SCHs
CHEM 1213 & CHEM 1211	Principles of Chemistry I and Principles of Chemistry Laboratory I	4
CHEM 1223 & CHEM 1221	Principles of Chemistry II and Principles of Chemistry Laboratory II	4
CHEM 2213 & CHEM 2211	Organic Chemistry I and Organic Chemistry Laboratory I	4
CHEM 3223 & CHEM 3221	Organic Chemistry II and Organic Chemistry Laboratory II	4
CHEM 3333 & CHEM 3331	Quantitative Chemical Analysis and Quantitative Chemical Analysis Laboratory	4
CHEM 3413 & CHEM 3411	Physical Chemistry I and Physical Chemistry Laboratory I	4
CHEM 3423 & CHEM 3421	Physical Chemistry II and Physical Chemistry Laboratory II	4

CHEM 3633 & CHEM 3632	Biochemistry I and Biochemistry I Laboratory	5
<b>Total SCHs</b>		<b>33</b>

## Departmental Requirements

Code	Title	SCHs
BIOL 4593	Science in the Secondary Classroom	3
MATH 2014	Calculus I (may be applied from core)	4
MATH 2024	Calculus II	4
PHYS 2153 & PHYS 2151	General Physics I and General Physics Laboratory I (may be applied from core)	4
PHYS 2163 & PHYS 2161	General Physics II and General Physics Laboratory II (may be applied from core)	4
SCI 1114	Sustainable Physical Science	4
SCI 2113	Earth Science: Global Perspectives	3
SCI 3133	Climate Change: A Human Perspective	3
<b>Total SCHs</b>		<b>29</b>

## Professional Education Studies

Admission to the Educator Preparation Program is required. Students must apply for admission into the Educator Preparation Program prior to enrolling in EDUC 3003/EDUC 3482, EDUC 4113/EDUC 4243, and EDUC 4946. Information is available from the Office of Educator Preparation Services (<https://twu.edu/teacher-certification/>).

Code	Title	SCHs
<b>Pedagogical and Professional Responsibility</b>		
EDUC 2003	Schools and Society	3
EDUC 3003	Learning Theory and Development	3
EDUC 3482	Teaching Diverse Learners Through Technology Integration	2
EDUC 4113	Design and Implementation of Instruction and Assessment	3
EDUC 4243	Classroom Environment and Management	3
EDUC 4946	Clinical Student Teaching	6
<b>Related Studies in Education</b>		
READ 3013	Literacy and Learning across the Curriculum	3
EDSP 3203	Learners with Exceptionalities	3
<b>Total SCHs</b>		<b>26</b>

Notes:

- EDUC 2003 may be taken at a community college. Check with the Office of Educator Preparation Services (<https://twu.edu/teacher-certification/>) to make sure the course has the equivalent number.
- EDUC 4113 and EDUC 4243 must be taken during the same semester.